

MEMORY LINK SLAVE

Ethernet Driver

Supported version

TOP Design Studio

V1.4.6.26 or higher



CONTENTS

We would like to thank our customers for using M2I's "Touch Operation Panel (M2I TOP) Series". Read this manual and familiarize yourself with the connection method and procedures of the TOP and external device.

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Describes the devices required for connection, the setting of each device, cables, and configurable systems.
- 2. External device selection** [Page 3](#)

Select a TOP model and an external device.
- 3. TOP communication setting** [Page 4](#)

Describes how to set the TOP communication.
- 4. Supported addresses** [Page 10](#)

Refer to this section to check the addresses which can communicate with an external device.
- 5. Interrupt function** [Page 11](#)

Describes how the TOP sends Interrupt Output message to the external device.

1. System configuration

The system configuration of TOP and Memory Link Slave communication driver is as follows:

Series	Communication method	System setting	Cable
-	Ethernet (TCP / UDP)	3. TOP communication setting	Twisted pair cable* Note 1

*[Note 1](#)) Twisted pair cable

- Refer to STP (Shielded Twisted Pair Cable) or UTP (Unshielded Twisted Pair Cable) Category 3, 4, 5.
- Depending on the network configuration, you can connect to components such as the hub and transceiver, and in this case, use a direct cable.

■ Connection configuration

- 1:1 (one external device and one TOP) connection

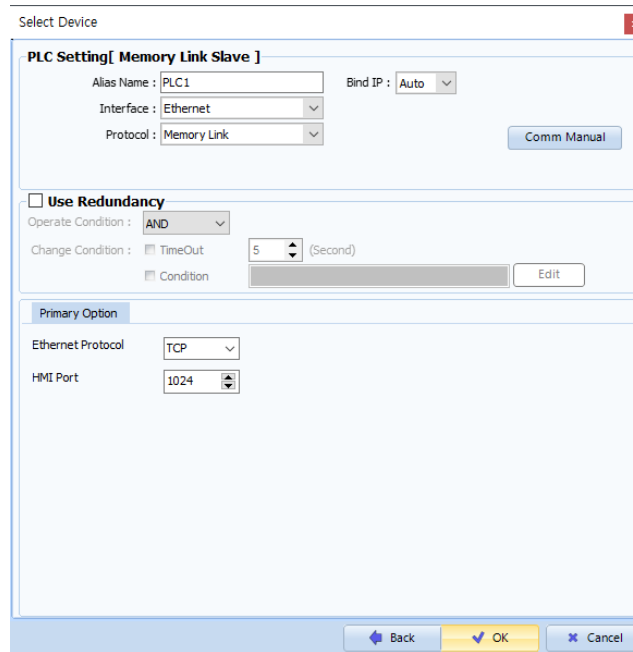


- 1:N (one external device and multiple TOPs) connection



2. External device selection

- Select a TOP model and a port, and then select an external device.



Settings		Contents					
TOP	Model	Check the TOP display and process to select the touch model.					
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select Digital Electronics Corporation .					
	PLC	Select the TOP communication driver. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Model</th> <th>Interface</th> <th>Protocol</th> </tr> </thead> <tbody> <tr> <td>Memory Link Slave</td> <td>Ethernet</td> <td>Memory Link</td> </tr> </tbody> </table> <p>Please check the system configuration in Chapter 1 to see if the external device you want to connect is a model whose system can be configured.</p>	Model	Interface	Protocol	Memory Link Slave	Ethernet
Model	Interface	Protocol					
Memory Link Slave	Ethernet	Memory Link					

3. TOP communication setting

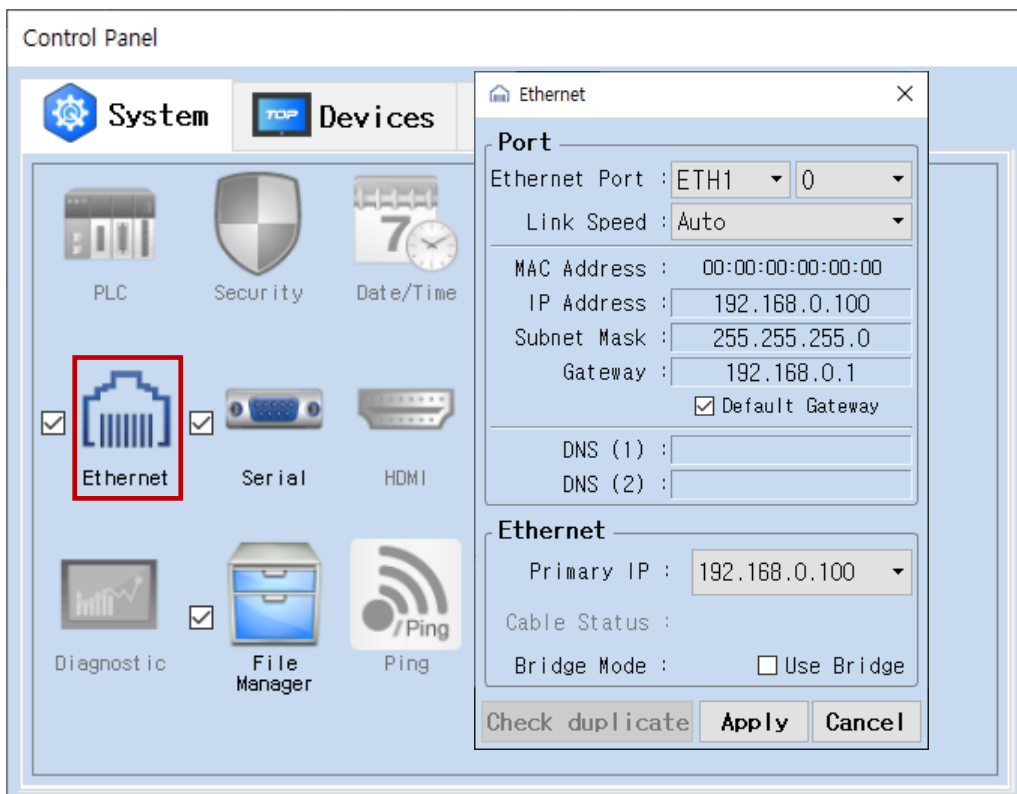
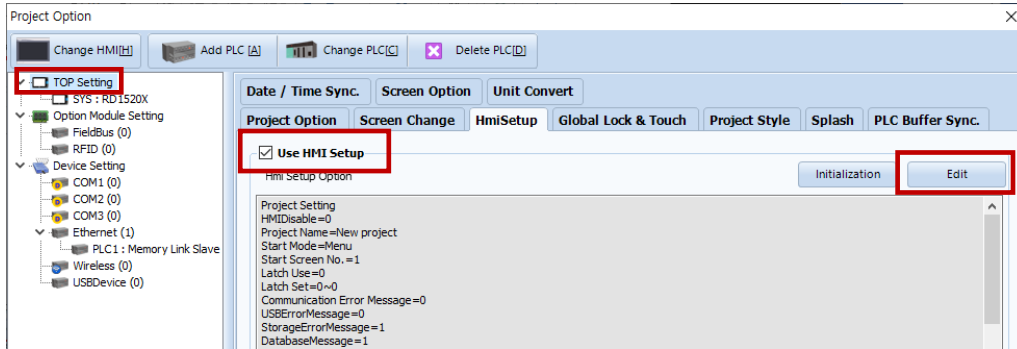
The communication can be set in TOP Design Studio or TOP main menu. The communication should be set in the same way as that of the external device.

3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

■ [Project > Project Property > TOP Setting] → [Project Option > "Use HMI Setup" Check > Edit > Ethernet]

– Set the TOP communication interface in TOP Design Studio.



Items	TOP	External device	Remarks
IP Address* Note 1 Note 2)	192.168.0.100	192.168.0.101	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

*[Note 1](#)) The network addresses of the TOP and the external device (the first three digits of the IP, 192 . 168 . 0 , 0) should match.

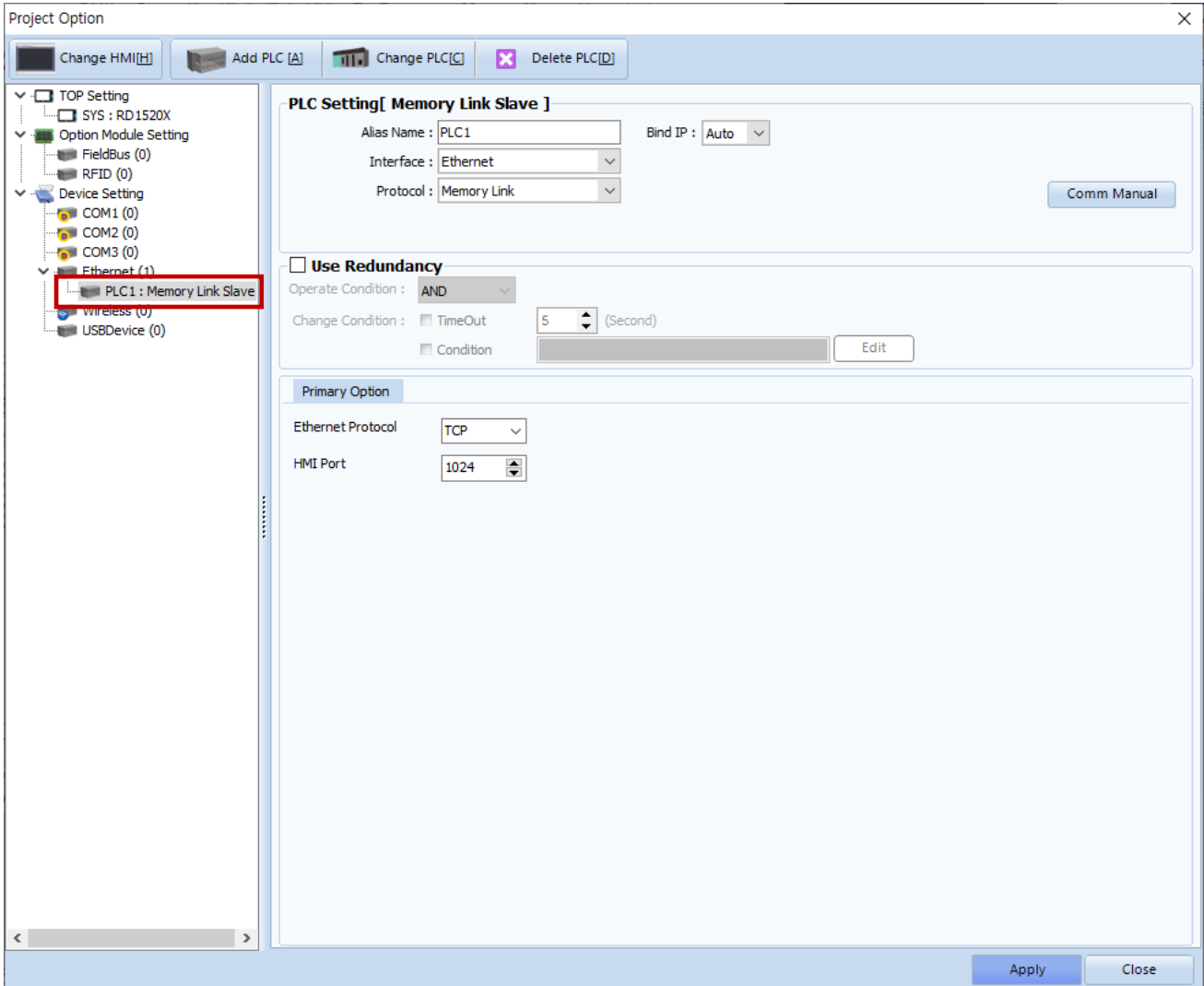
*[Note 2](#)) Do not use duplicate IP addresses over the same network.

* The above settings are examples recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.

(2) Communication option setting

- [Project > Project Property > Device Setting > ETHERNET > "PLC1 : Memory Link Slave"]
 – Set the options of the Memory Link Slave communication driver in TOP Design Studio.

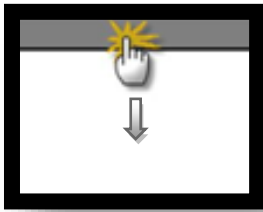


Items	Settings	Remarks
Interface	Select "Ethernet".	2. External device selection
Protocol	Select the communication protocol between the TOP and an external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
HMI Port	Set the Ethernet port number of TOP.	
Interrupt Address	Configures the internal address for executing the Interrupt function.	5. Interrupt function

3.2. Communication setting in TOP

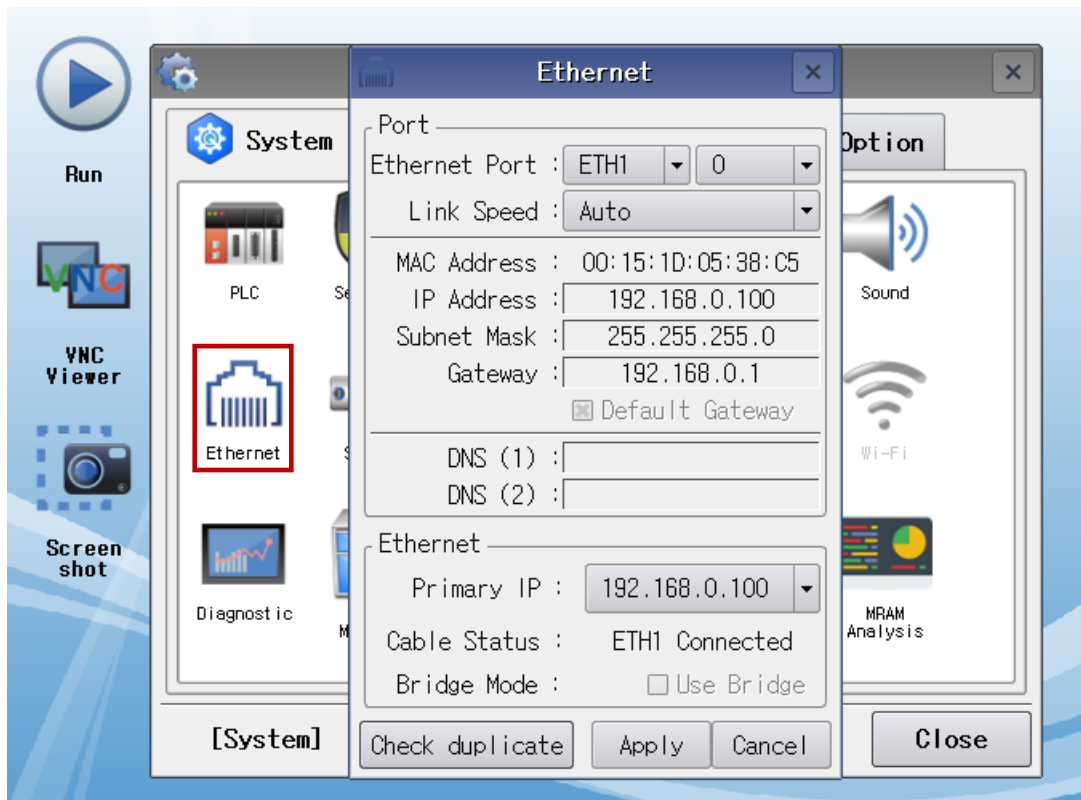
* This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.

■ Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.



(1) Communication interface setting

■ [Main Screen > Control Panel > Ethernet]



Items	TOP	External device	Remarks
IP Address*Note 1) Note 2)	192.168.0.100	192.168.0.101	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, 192 . 168 . 0 . 0) should match.

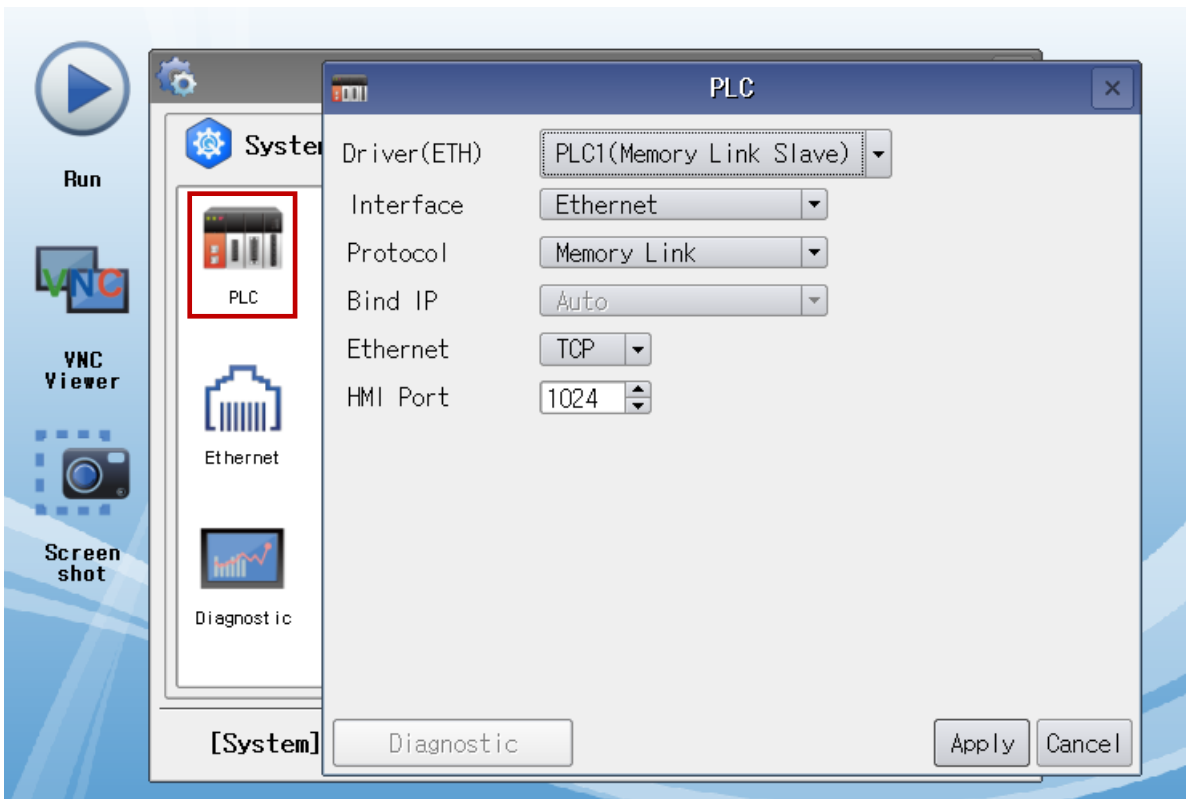
*Note 2) Do not use duplicate IP addresses over the same network.

* The above settings are examples recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.

(2) Communication option setting

■ [Main Screen > Control Panel > PLC]



Items	Settings	Remarks
Interface	Select "Ethernet".	2. External device selection
Protocol	Select the communication protocol between the TOP and an external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
HMI Port	Set the Ethernet port number of TOP.	
Interrupt Address	Configures the internal address for executing the Interrupt function.	5. Interrupt function

3.3 Communication diagnostics

- Check the interface setting status between the TOP and an external device.
 - Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.
 - Check if the port (ETH1/ETH2) settings you want to use in [Control Panel > Ethernet] are the same as those of the external device.

- Diagnosis of whether the port communication is normal or not
 - Touch "Communication diagnostics" in [Control Panel > PLC].
 - The Diagnostics dialog box pops up on the screen and determines the diagnostic status.

OK	Communication setting normal
Time Out Error	Communication setting abnormal - Check the cable, TOP, and external device setting status. (Reference: Communication diagnostics sheet)

■ Communication diagnostics sheet

- If there is a problem with the communication connection with an external terminal, please check the settings in the sheet below.

Items	Contents	Check		Remarks	
System configuration	How to connect the system	OK	NG	1. System configuration	
	Connection cable name	OK	NG		
TOP	Version information	OK	NG	2. External device selection 3. Communication setting	
	Port in use	OK	NG		
	Driver name	OK	NG		
	Other detailed settings	OK	NG		
	Relative prefix	Project setting	OK		NG
		Communication diagnostics	OK		NG
	Ethernet port setting	IP Address	OK		NG
Subnet Mask		OK	NG		
Gateway		OK	NG		
External device	CPU name	OK	NG		
	Communication port name (module name)	OK	NG		
	Protocol (mode)	OK	NG		
	Setup Prefix	OK	NG		
	Other detailed settings	OK	NG		
	Ethernet port setting	IP Address	OK		NG
		Subnet Mask	OK		NG
Gateway		OK	NG		
Check address range		OK	NG	4. Supported addresses (For details, please refer to the PLC vendor's manual.)	

4. Supported addresses

The devices available in TOP are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP series supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be take caution to not deviate from the address range supported by the device you want to use.

Internal address	Bit Address	Word Address	Remarks
SYS	00000.00 – 10239.15	00000 – 10239	*Note 1)

*Note 1) TOP-VIEW can use values between 0 to 102399.

5. Interrupt function

Describes how the TOP carries out the Interrupt Output operation to the external device.

By entering the TOP's configured internal address into the "Interrupt Address", the TOP sends an Interrupt Output message to the external device. A value lower than 1 byte of the entered value is applied to the Interrupt Output data, where the address resets to 0 upon sending the message.